



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS SITE MITIGATION
401 E. State St., CN 413, Trenton, N.J. 08625-0413
(609) 984-2902

Anthony J. Farro
Director

September 28, 1988

Mr. Fred Cataneo
U. S. Environmental Protection Agency
26 Federal Plaza, Room 759
New York, NY 10278

RE: COMMENTS ON THE VINELAND CHEMICAL COMPANY SITE
DRAFT REMEDIAL INVESTIGATION REPORT - PLANT SITE
VINELAND, NEW JERSEY, JULY 1988

Dear Fred:

Enclosed are the final comments on the above-mentioned document with the exception of Section 6: Baseline Risk Assessment; these comments should be completed by the end of the week.

Since you inadvertently received comments from the NJDEP's Bureau of Ground Water Pollution Abatement directly (Attachment 2; memo dated 8/29/88 from Jill Monroe), the comments attached are in addition to those you have already received with the following exceptions:

- 1) The comments in Attachment 2 on Pages 2 and 6 of the 8/29/88 memo referencing Page 1-20, Paragraph 4 and Page 7-5, Paragraph 7 of the report, respectfully are better explained by the comments in Attachment 1 referencing Page 1-20.
- 2) The Baseline Risk Assessment Comments presented in Attachment 2 may be covered in the review of Section 6 that will be complete by the end of this week.

Some comments may be redundant, however, every effort was made to eliminate these.



I apologize for submitting comments in this fashion and assure you that in the future all comments will be addressed in an orderly fashion and in one text. Should you have any questions or difficulties with the comments presented, please contact me immediately at 609/984-0980.

Very truly yours,



Thomas J. Cozzi, Site Manager
Bureau of Site Management

HS179:ms

Enclosure

- c. A. Verma, BSM
- R. Engel, DAG
- A. Marinucci, BEERA
- J. Monroe, DWR
- I. Kropp, Superfund Coordinator
- C. McCarthy, BCR

VIN 002 1589

ATTACHMENT 1

- 1) On page 1-12, the second paragraph discusses that the treatment system was designed to produce effluent at 0.05 ppm, but DEP determined that the concentration from the treatment system was consistently greater than .7 ppm, and thus DEP initiated actions to deny permits. This is not correct. The initial concentration of 0.05 ppm was set in the late 70's or early 80's, but was modified by an Administrative Consent Order in 1981 to be 0.7 ppm because Vichem could not consistently reach the lower treatment limit. When Vichem made applications for NJPDES permits in 1984 DEP decided to deny them for a number of reasons, including the fact that the concentration after treatment would still be above 0.05 ppm.
- 2) On the next paragraph on page 1-12, it states that Vichem ceased pumping and treating the groundwater in July, 1987 by order of the DEP. Actually, it was given permission, not ordered to cease, pumping and treating of groundwater in July, 1987, but did not actually stop doing so until September 21, 1987.
- 3) Page 1-13, 2nd paragraph. Within this paragraph is a discussion of storage or process chemicals or wastes in "chicken coops". This discussion refers to only two coops within the southwest corner. These coops were destroyed but others still exist on the site, and their existence should be noted in this paragraph, because, as written the paragraph implies that no other coops are presently in existence.
- 4) Page 1-16, paragraph 1. NJDEP also reviewed the Pump Test Results and concluded that the results did not rule out leakage between upper and lower aquifer. An interconnection between aquifers implies that there is a potential threat to the deep groundwater.
- 5) Page 1-18. Drill cutting disposal site. Cuttings were placed in pits adjacent to the wells. Were these pits lined? If not lined, the cuttings would be a source of soil contamination.
- 6) Page 1-20, Reference to ECRA Standards.
 - a) The value of 20 mg/kg is a Departmental Guidance value and not an ECRA Standard. Correct reference is NJDEP action level for arsenic.
 - b) The value of 20 mg/kg is an action level. Soils remediated to levels lower than 20 mg/kg can be considered uncontaminated and can be left at the site. Departmental guidance values can not be equated with hazardous waste classification values.
 - c) The waste classification designations Hazardous - Non-hazardous are only applicable to materials that are to be disposed of in a landfill. In this situation, a leaching test (EP Tox or CLP) would be used to judge between the two classifications, i.e., - hazardous, non-hazardous.

VIN 002 1590

E

- 7) Page 2-8, Air Sampling. During RI field work, real time monitors were used to monitor particulates in order to protect field crews. Please have EPA explain the use of these meters including calculations and assumptions used in the calculations.
- 8) Page 2-12, Section 2.4.1.1
Number in parentheses does not correspond to ^Xtext. Have this clarified.
- 9) Section 2. The large tables (2-1 through 2-13) describing the analysis of each sample can be omitted or relegated to the appendices since they distract from the focus of the report. Pertinent information can be illustrated or tabulated along with analytical results in subsequent sections of the document that report the findings of this RI.
- 10) Section 4.1, "Surface Soil". The action level for arsenic in soil is 20 ppm. Have Ebasco report the number and percentage of samples containing arsenic above 20 ppm. Likewise the action level for mercury is 1 ppm. Have EBASCO calculate statistics for samples above 1 ppm Hg.
- 11) Page 4.9, Section 4.2, "Subsurface Soil". The arsenic in the soil in the water table is concentrated in the banded zone. Does EBASCO know the nature of the banded zone? These soils should be analyzed for total organic matter as this property could control the arsenic adsorption in this sedimentary zone.
- 12) The figures in Chapter 2 which illustrate the vertical distribution of arsenic are very useful, however, EBASCO should illustrate on a map, the horizontal distribution of the subsurface contamination. Since this contamination is concentrated in a narrow band, a horizontal illustration of the arsenic concentrations in this band would be adequate.
- 13) In Section 4.2 mercury was found in surface soils. Table 4-6, page 4-29, Mercury results are omitted. If Mercury is found in groundwater, mercury must be investigated at depth.
- 14) Table 4-1, page 4-3. Heading "Surface Soils" should be "Subsurface Soils".
- 15) Section 4.3, "Residential Soils"
One residential soil yielded a value of 78 ppm. This is above action level and may require notification of the resident because dust from such soils would be hazardous.
- 16) Summary Section 4.9 is in agreement with data.
- 17) Chapter 5. Partitioning of Arsenic. Since partitioning is a molecular property, partition and adsorption/desorption calculations should be made in molar units rather than weight units. This is especially useful when describing the stoichiometry of iron and arsenic.

VIN
002
1591

- 18) Section 5.1.3, "Arsenic in the Site Groundwater". One can also explain the high levels of arsenic found at the EW-4 mid-depth well in the following manner: The surface soils were contaminated with high levels of arsenic from arsenic storage piles. These piles were removed but contamination of the ground water extended into the mid-depth well. Because no source currently exists on the surface, the shallow groundwater has been significantly diluted and flushed by clean, surface infiltration water, so that the arsenic levels are reduced in the shallow groundwater. Mid-depth groundwater is less impacted by recharge, thus the arsenic concentration in this mid-level remains high relative to the surface concentration.
- 19) Page 5-17, paragraph 3. EBASCO is unclear as to what they mean. I presume that EBASCO wishes to say that the concentration of arsenic in EW-4 is comparable to the arsenic concentration in the shallow groundwater of 5 to 10 years ago.
- 20) Section 5.1.5. Have EBASCO show calculation of Arsenic Total Content of Soils.
- 21) Section 5.1.6
- a) Cacodyllic acid is formed by reduction of arsenic in anaerobic sediments not aerobic as stated by EBASCO.
 - b) Second paragraph.

Please have EBASCO explain the reference to "Waste products" in this paragraph.
 - c) Calculation of arsenic load from Lennon and Johnson is incorrect. The value 6.8 should be 9.5. This must also be corrected in Table 5-5.
- 22) On page 7-5, third from the last line, the reference to the ECRA regulations should be N.J.A.C. 7:26B-1.1 et seq.
- 23) On page 7-9, in the paragraph on groundwater characterization, the statement is made (and is made other places in this report) that the treated effluent contains a total arsenic concentration in the range of 1 to 1.5 m/l. It is not clear where that reference comes from. Monitoring reports since the end of the groundwater treatment aspect of the treatment system have consistently shown treatment levels at below 0.05 m/l.
- 24) On page 8-3, in discussing the estimate of the amount of time it will take for the arsenic concentration in the groundwater to fall below 50 micrograms per liter. Any feasibility study should be sure, in discussing the no action alternative, to take into account whether there will be a continued discharge of treated water and/or non-contact cooling water to the unlined lagoons.

GENERAL COMMENTS

- 1) Most of the tables and figures in the document are not specific and do not illustrate specific relationships that are observable in the data. For example, many groundwater illustrations should contain locations of the former arsenic piles and areas of high surface contamination. Every table and illustration must make a point and not just contain information. Data that does not contribute to the understanding of the site and the contamination must be relegated to the Appendices.
- 2) Data in which the detection levels exceed action levels is unusable if a below minimum detection limit is reported for that sample.
- 3) The numerous abbreviations and acronyms in the document are not referenced. In order for this to become a useful public document, these notations must be defined in a key.

HS179:ms

ATTACHMENT 2